REMARKS

Favorable consideration of the application is respectfully requested. Claims 19-33, prior to this paper, were pending in the present application. By this paper, claims 19-21 are amended and claims 22-33 are canceled without prejudice.

Claim Election/Restrictions

The previously added claims 22-33 were restricted by the Examiner as the claims require a cleaning process. Claims 22-33 have been canceled without prejudice.

Claim Rejections - 35 U.S.C. §103

Claims 19 and 21, prior to amendment, were rejected under 35 U.S.C. §103(a) as being unpatentable over Park et al. (U.S. 5,296,400) in view of Ravi et al. (U.S. 6,548,313).

Claims 19 and 21 have been amended to read:

> "...planarizing the amorphous carbon filler material such that the planarized amorphous carbon filler material is a continuous layer that remains only between the adjacent transistor gate structures..."

Park et al. discloses depositing a filler material at least in a region between the adjacent transistor gates structures. The filler material disclosed by Park et al. can be Low Temperature Oxide, a Plasma Enhanced Chemical Vapor Deposition oxide, a Spin-On-Glass a Boro-Phospho-Silicate Glass (BPSG) or a Tetra-ethyl-ortho-silicate material (see Col 3, lines 6-10 of Park et al. and BPSG is preferred (see Col 3, line 68 – Col 4, line3).

Ravi et al. discloses depositing and planarizing an amorphous carbon filler material 244 that is not adjoined but does reside between adjacent transistor gate structures (see Fig.5A). However, Ravi et al. does not teach that the planarized amorphous carbon filler is a continuous layer that remains only between the adjacent transistor gate structures as presently claimed in the instant invention.

There is no indication that the teachings of Park et al. and Ravi et al. are combinable and even if they are combinable, the combination thereof would not result in a "planarized amorphous carbon filler that is a continuous layer that remains only between the adjacent transistor gate structures" as presently claimed in the instant invention, but instead might result in a planarized amorphous carbon filler that is "not" a continuous layer between adjacent gate structures.

Clearly, the combination of Park et al. and Ravi et al. does not disclose the use of an amorphous carbon material that is planarized to function as a filler material that is a continuous layer that is residing only between adjacent transistor gate structures that is then cleared for the formation of a subsequent conductive material.

Thus, in contrast to the cited art, the instant invention, as presently amended, discloses using an amorphous carbon as a filler material and planarizing the amorphous carbon filler material such that the planarized amorphous carbon filler material "is a continuous layer that" remains only between the adjacent transistor gate structures, a feature of the invention as relied on by amendment.

Therefore, by amendment, the rejection of claims 19 and 21 under 35 U.S.C. §103(a) as being unpatentable over Park et al. (U.S. 5,296,400) in view of Ravi et al. (U.S. 6,548,313), is overcome.

Claim 21, prior to amendment, was rejected under 35 U.S.C. §103(a) as being unpatentable over Wei et al. (U.S. 6,423,645) in view of Ravi et al. (U.S. 6,548,313).

As indicated above, claim 21 has been amended to read:

"...planarizing the amorphous carbon filler material such that the planarized amorphous carbon filler material <u>is a continuous layer that</u> remains only between the adjacent transistor gate structures..."

Wei et al. discloses depositing an amorphous carbon filler material (i.e., amorphous SiC) at least in a region between the adjacent transistor gates structures. Wei et al. also discloses patterning the amorphous carbon filler material prior to contact formation such that the amorphous carbon material remains over the transistor gate structures and not between adjacent transistor gate structures (see Col 3, line 64 through Col 4 line 2 and Fig 3).

Ravi et al. discloses depositing and planarizing an amorphous carbon filler material 244 that is not adjoined but residing between adjacent transistor gate structures (see Fig.5A). However, Ravi et al. does not teach that the planarized amorphous carbon filler is a continuous layer that remains only between the adjacent transistor gate structures as presently claimed in the instant invention.

There is no indication that the teachings of Wei et al. and Ravi et al. are combinable and even if they are combinable, the combination thereof would not result in a "planarized amorphous carbon filler that is a continuous layer that remains only between the adjacent transistor gate structures" as presently claimed in the instant invention, but instead might result in a planarized amorphous carbon filler that is "not" a continuous layer between adjacent gate structures.

Clearly, the combination of Wei et al. and Ravi et al. does not disclose the use of an amorphous carbon material that is planarized to function as a filler material that is a continuous layer that residing only between adjacent transistor gate structures that is then cleared for the formation of a subsequent conductive material.

Thus, in contrast to the cited art, the instant invention, as presently amended, discloses using an amorphous carbon as a filler material and planarizing the amorphous carbon filler material such that the planarized amorphous carbon filler material "is a continuous layer that" remains only between the adjacent transistor gate structures, a feature of the invention as relied on by amendment.

Therefore, by amendment, the rejection of claim 21 under 35 U.S.C. §103(a) as being unpatentable over Wei et al. (U.S. 6,423,645) in view of Ravi et al. (U.S. 6,548,313), is overcome.

Claim 20, prior to amendment, was rejected under 35 U.S.C. §103(a) as being unpatentable over Park et al. (U.S. 5,296,400) in view Ha (U.S. 6,451,708) and Ravi et al. (U.S. 6,548,313).

Claim 20 has been amended to read:

"...planarizing the amorphous carbon filler material such that the planarized amorphous carbon filler material is a continuous layer that remains only between the adjacent transistor gate structures..."

Park et al. discloses depositing a filler material at least in a region between the adjacent transistor gates structures. The filler material disclosed by Park et al. can be Low Temperature Oxide, a Plasma Enhanced Chemical Vapor Deposition oxide, a Spin-On-Glass a Boro-Phospho-Silicate Glass (BPSG) or a Tetra-ethyl-ortho-silicate material (see Col 3, lines 6-10 of Park et al. and BPSG is preferred (see Col 3, line 68 – Col 4, line3).

Ha discloses the forming of a contact having the aspect ratio at about 5.76:1.

Ravi et al. discloses depositing and planarizing an amorphous carbon filler material 244 that is not adjoined but does reside between adjacent transistor gate structures (see Fig.5A). However, Ravi et al. does not teach that the planarized amorphous carbon filler is a continuous layer that remains only between the adjacent transistor gate structures as presently claimed in the instant invention.

There is no indication that the teachings of Park et al., Ha and Ravi et al. are combinable and even if they are combinable, the combination thereof would not result in a "planarized amorphous carbon filler that is a continuous layer that remains only between the adjacent transistor gate structures" as presently claimed in the instant invention, but instead might result in a planarized amorphous carbon filler that is "not" a continuous layer between adjacent gate structures.

Clearly, the combination of Park et al., Ha and Ravi et al. does not disclose the use of an amorphous carbon material that is planarized to function as a filler material that is a continuous layer residing only between adjacent transistor gate structures that is then cleared for the formation of a subsequent conductive material.

Thus, in contrast to the cited art, the instant invention, as presently amended, discloses using an amorphous carbon as a filler material and planarizing the amorphous carbon filler material such that the planarized amorphous carbon filler material "is a continuous layer that" remains only between the adjacent transistor gate structures, a feature of the invention as relied on by amendment.

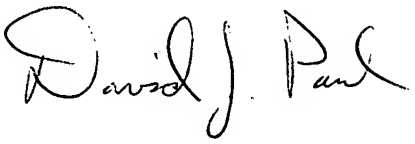
Therefore, by amendment, the rejection of claim 20 under 35 U.S.C. §103(a) as being unpatentable over Park et al. (U.S. 5,296,400) in view Ha (U.S. 6,451,708) and Ravi et al. (U.S. 6,548,313), is overcome.

CONCLUSION

Applicant submits that the application is in condition for allowance. Such allowance at an early date is respectfully requested.

If the Examiner feels that a conference will expedite the prosecution of this case, the Examiner is cordially invited to call the undersigned.

Respectfully Submitted,



David J. Paul
Agent for the Applicant
Registration Number 34,692
(208) 368-4515